

BS



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,042	05/08/2001	Randy D. Petrea	5236	2161

7590 10/05/2004

Milliken & Company
 P.O. Box 1927
 Spartanburg, SC 29304

EXAMINER

GOLLAMUDI, SHARMILA S

ART UNIT	PAPER NUMBER
----------	--------------

1616

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,042

Applicant(s)

PETREA ET AL.

Examiner

Sharmila S. Gollamudi

Art Unit

1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34 and 36-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34, 36-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt of Request for Reconsideration received on May 10, 2004. Claims **34 and 36-42** are pending in this application. Claims 1-33 and 43-46 stand cancelled.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 34 and 37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No. 6,479,144. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

US patent claims an antimicrobial spandex fiber containing an antimicrobial compound selected from triclosan, a silver based zeolite, a silver based glass, and mixture thereof. Further, US patent claims the antimicrobial compound in discrete areas of the fiber. Dependent claim 8 recites the exclusion of another organic antimicrobial compound.

Instant application claims an antimicrobial polyurethane film containing silver based inorganic compounds with a certain thickness. Further, the claim recites the antimicrobial

compound in discrete areas of the fiber. Dependent claim 37 recites the exclusion of another organic antimicrobial compound.

US patent and instant application are obvious over one another since US patent claims the genus and instant application claims the species. The instant polyurethane species falls within the broad scope of US patent's spandex fiber since US patent defines the term spandex as "any standard polyurethane-type fibers" on column 4, lines 12-13. Therefore, the rejected claims are obvious over one another.

Response to Arguments

A Terminal Disclaimer to obviate the rejection as not been filed and thus the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34, 36, 38-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Katsura et al (5,941,369).

Katsura et al discloses a food-conveying belt. Example 1 discloses a polyurethane resin pellet and an antifungal/antibacterial agent are dry blended. The result mixture is plasticized and extruded into a sheet having a thickness of 0.3mm (11.8 mils). This film is then added to a polyester carcass containing an adhesion agent. Comparative example 2 discloses example 1

Art Unit: 1616

wherein silver-zirconium phosphate and antifungal are substituted instead, in the polyurethane film.

*Note the examiner bases the rejection on the polyurethane film intermediate product before its addition to the polyester adhesion sheet. See example 1, lines 25-35.

*The anti-tack and cohesive properties are inherent since the prior art and the instant invention are not distinguishable.

Response to Arguments

Applicant argues that the instant invention recites a film that has discrete areas containing the compound and Katsura teaches a uniform dispersion of the antimicrobial compound.

Applicant's arguments have been fully considered but they are not persuasive. Firstly, it is pointed out that the as recognized by the applicant, Katsura teaches dispersing the antimicrobial to provide for a uniform dispersion. However, the antimicrobial is not *dissolved* in the resin. The examiner points out that a dispersion is defined by Webster as "a) a dispersed substance b) a system consisting of a dispersed substance and the medium which it is dispersed: colloid. Colloid is defined as "a substance that consists of particles dispersed throughout another substance which are too small for resolution with an ordinary light microscope but are incapable of passing through a semipermeable membrane". Grant & Hackh defines dispersed as "an apparently homogenous substance, which consists of a microscopically **heterogeneous** mixture of two or more finely divided phases. See attached definitions. Thus, it can be seen that the term dispersion reads on applicant's limitation of discrete areas since the antimicrobial is not homogenous in the resin but rather in disconnected areas of the resin. The applicant is equating the term uniform to dissolving, wherein the latter does not have different phases.

Secondly, it is noted that on page 5 of the instant specification, the applicant defines discrete areas as "wherein at least some of the antimicrobial compound is present at the surface of the film, and, optionally, at least some of some antimicrobial is present within the film." Thus, it can be sent that the applicant defines this phrase as spatial orientation of the antimicrobial particles in the polyurethane wherein the antimicrobial is not simply coated onto the resin but rather mixed into the resin. Again, it is the examiner's position that the silver based compounds will inherently orient themselves in the manner of the instant invention since Katsura teaches the same device wherein the same antimicrobial powder is utilized in a dispersion form and is dry blended with the polyurethane resin and heat-extruded. Furthermore, not only does Katsura teach the same device, Katsura also teaches the same method of making the product; thus the examiner does not see a structural difference that would render the instant claims with certain properties that are distinguishable over the prior art. The examiner has made a rationale for inherency and the burden has shifter to the applicant to provide evidence that the features are not inherent in the prior art.

With regard to the cohesive properties, again the examiner points out the instant claims and the inventive claims are not patentably distinct in structure and thus it is the examiner's position that these cohesive properties are inherent absent data showing otherwise.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 34 and 36-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krall et al (5976562) in view of JP 09002537.

Krall et al disclose a polyurethane film of .25mm thickness with silver. The antimicrobial silver is embedded in and coated onto the polyurethane. (Note example and col. 2, lines 5-15). Krall et al does not include an organic bactericide or additives. Krall teaches the metal compounds are embedded in the plastic in the form of discrete particles. See column 2, lines 5-10 and claim 1. The product may be extruded into shape. See column 4, lines 59-67.

Krall et al do not teach instant silver compounds.

JP 09002537 teaches a container exhibiting antimicrobial property incorporating silver based zirconium phosphate. JP teaches silver based zirconium phosphate provides less discoloration and deterioration. The reference teaches resin such as polyurethane. (Note abstract)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Krall et al and JP 09002537 and utilize the instant silver-based antimicrobial compound. One would have been motivated to use silver based zirconium phosphate since it provides less discoloration and deterioration as taught by JP 09002537.

Further, one would have expected similar results since both teach silver-based polyurethane articles to provide an antibacterial effect.

Response to Arguments

Applicant argues that the examiner has not provided a sufficient basis for inherency with regard to the anti-tack properties and the cohesive properties. Applicant argues that the inherent feature *must* flow out of the prior art.

Applicant's arguments have been fully considered but they are not persuasive. The examiner's position that the anti-tack property is inherent from utilizing instant silver compounds is based on the fact that the instant invention and the prior art are not structurally distinguishable. The instant invention requires an 1) extruded polyurethane film that has a thickness of 10-500 mils, 2) a silver based inorganic compounds, and 3) excludes additional anti-tack agents. Krall teaches an 1) extruded polyurethane film with the instant thickness, 2) a metal compound wherein example 3 utilizes silver, and 3) excludes other anti-tack additive. The only teaching lacking in Krall is the *instant* silver compound. Therefore, the examiner utilizes the JP to teach the instant silver compounds. Secondly, although US patent 6,479,144 does not qualify as prior art, the applicant by his own admission states antimicrobial particles have been found to have excellent anti-tack properties since the antimicrobial particles (including silver particles and the instantly claimed silver based antimicrobials) extend outward from the surface of the polyurethane. See column3, lines 8-65 of US patent 6,479,144. Moreover, applicant's specification on page 5 also admits that the incorporation of the silver compounds into the film, affords the instant anti-tack property. Therefore, the recognition of a newly discovered property inherently possessed by the prior art, does not cause the claim drawn to the discovered property

Art Unit: 1616

does not distinguish it over the prior art. See *In re best*, 195 USPQ 430 (CCPA 1977). In instant case, the prior art discloses polyurethane films wherein silver-based antimicrobials are incorporated within the resin, thus the applicant has merely recognized a feature inherently possessed by the prior art. The prior art does not have to recognize this feature for it to be inherent.

With regard to the cohesive properties, the examiner again points out that the instant polyurethane film is not distinguishable over the prior art's, i.e. the claims do not recite any limitation that provides for such as property. Further, US 5,536,258 cites as art of interest, states on column 9, lines 12-15 that the benefit of using silver coating provides a low-friction surface. Thus, again it is the examiner's position that the use of silver compounds provides the instant properties.

Lastly, it is pointed out that once the examiner has provided a rationale of why the inclusion of the instant silver compound would provide the instant anti-tack properties. Thus, once the examiner has done this, the burden shifts to the applicant to prove otherwise since the USPTO does not have the facilities to test products. The applicant has not submitted any evidence to rebut the examiner's position and thus the rejection is maintained.

Claims 34 and 36-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-028797 in view of JP 09002537.

JP teaches polyurethane film extruded with an antimicrobial agent, such as silver and antifungal agent (see page 3). The film is then coated onto a thermoplastic resin. The film has a thickness between 10-1000 microns and instant properties. The anti-tack and cohesive properties are inherent.

JP does not teach instant silver agent.

JP 09002537 teaches a container exhibiting antimicrobial property incorporating silver based zirconium phosphate. JP teaches silver based zirconium phosphate provides less discoloration and deterioration. The reference teaches resin such as polyurethane. (Note abstract)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine JP 11-028797 and JP 09002537 and utilize the instant silver compounds. One would have been motivated to use silver based zirconium phosphate since it provides less discoloration and deterioration as taught by JP 09002537. Further, one would have a reasonable expectation of success in combining the references since both teach silver-based polyurethane articles to provide an antibacterial effect.

Response to Arguments

Applicant argues that that primary reference does not teach an extruded antimicrobial-embedded thin film and instead teaches a coating onto a thermoplastic resin. It is argued that JP teaches a polyurethane resin molding having a polyurethane paint composition and the resultant product is a thick resin. Applicant argues that the primary reference does not teach extrusion of any kind or a silver-based inorganic compound. Applicant argues that the polyurethane coating is painted onto the molding as a liquid.

Applicant's arguments have been fully considered but they are not persuasive. Firstly, the examiner points out that the claims are directed toward a product claim and the applicant is arguing the method of making the product. The method of making the product does not hold patentable weight in a product claim. In instant case, extrusion relates to the *process* of making

the product, i.e. it is the process of forcing or pushing material out of a die, and does not effect the patentability of the product claim. Thus, although the polyurethane coating is applied as a liquid, it dries to form a *film*. The examiner does note that the process of extrusion provides for the antimicrobial to be incorporated into the resin composition and points out that JP provides this critical process by utilizing another process wherein the antimicrobial is added and dispersed into the liquid polyurethane coating, followed by applying it to a molding wherein the polyurethane dries to form a film.

The applicant is correct in the fact that the end product of JP is a thick resin molding; however the examiner points out that the polyurethane coat (JP uses the word film and coat interchangeably) formed on the polyurethane molding reads on the instant claims. Therefore, the examiner is rejecting the claims based on this polyurethane coat/film and not the final product made by JP. Note the title wherein JP states that the thermoplastic polyurethane resin mould for- consists of a *polyurethane film* having antimicrobial and antifungal activity coated on the surface of a thermoplastic polyurethane resin.

With regard to the arguments pertaining to JP '797, the examiner acknowledged this and thus relies on the secondary reference to teach the instant silver-based antimicrobials. However, JP '797 clearly teaches the use of antimicrobial compounds to provide for an antibacterial effect.

Therefore, the rejection is maintained.

Conclusion

None of the claims are allowed at this time.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharmila S. Gollamudi whose telephone number is 571-272-0614. The examiner can normally be reached on M-F (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz can be reached on 571-272-0887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharmila S. Gollamudi
Examiner
Art Unit 1616

Application/Control Number: 09/851,042
Art Unit: 1616

Page 12

SSG

Gary L. Kunz
GARY KUNZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600